

Myrmecophilous Notes for 1920.

By HORACE DONISTHORPE, F.Z.S., F.E.S., etc.

In 1920 more time was devoted to Coleoptera than to Ants, nevertheless a certain number of observations and discoveries were made, which are recorded here.

FORMICIDAE.

Myrmecina graminicola, Latr.—The colony of this species which I obtained on May 1st, 1910 (see *British Ants*, p. 81, etc.) is still under observation, and in a flourishing condition. For the first time for four years no winged females have been reared, though ♂♂ have been plentiful as usual. A little fighting again took place in March; but did not last long. I have not recorded before that in August, 1919, very serious fighting occurred in this nest, indiscriminately between ♂♂ and del. ♀♀. One ♂ might be attacked by two others, or by two ♀♀, or by a ♂ and ♀, or by one ♂ alone, or one ♀; and the same with one ♀. This lasted for nearly two months, and I was much afraid I should lose the whole colony, as over 70, and perhaps 100, ants were killed off in this way. I cannot explain it, as the colony had plenty of food, and a large brood to attend to. I put a stop to it in the end by punishing any ant or ants who were fighting. They were knocked off their legs with a paint brush, pushed about, rolled over, and shaken up until they appeared to be thoroughly cowed! It is possible that this fighting may have been the cause why no females were reared in 1920, and it will be of interest to see if such ♀♀ will be produced this year (1921), as no fighting to speak of, no ants being killed, occurred last year.

Acanthomyops (Donisthorpea) niger, L.—On March 4th, workers in some numbers from a colony of this ant, nesting at the foot of a gatepost at Putney, were running about in the sun carrying bits of earth, etc.

On July 7th, at Mother Ivy's Bay, N. Cornwall, a fine colony of *A. (D.) niger*, situated under a large flat stone near a stream running from a marsh into the sea, was found to contain very many mermithogynes. These short winged females from this nest (which also contained numerous normal winged ♀♀ and many ♀ and ♂ cocoons, but no ♂♂) are peculiar in themselves, in the fact that nearly every one of them possesses a large oval hole in the mesonotum, about .7mm long and .25mm. broad, the object of which I am quite unable to explain. The gasters of such specimens as were dissected were found to contain one, or two, worms in each. Most of the ants and brood of this colony were taken, and as I knew my colleague Mr. Crawley was working on a paper on mermithogynes, I handed them over to him for investigation and experiment. The only other myrmecophiles present in the nest were *Platyarthrus hoffmanseggii*, Brndt., and *Cyphodievus (= Beckia) albinos*, Nic.

On August 28th marriage flights of *niger* (and also of *A. (C.) flavus* and *Myrmica ruginodis*) took place in the afternoon and evening all over Putney.

Acanthomyops (Chthonolasius) mixtus, Nyl.—On August 11th very many delated ♀♀ were seen all over the heath at Weybridge; and one winged individual was rescued from the clutches of a *F. sanguinea* ♂. One example was observed entering a hole in the sand

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which sheltered a colony of *A. (D.) alienus*. On digging into this nest, six dealated *mixtus* ♀ ♀ were found to have already established themselves in it.

The colony founding of all the British species of *Acanthomyops* is now well known, and thoroughly established (see *British Ants*, pp. 185, 196-99, 208-10, 215-16, 221-22, 230-33, 239-40). It would therefore seem unnecessary to keep on recording instances in support of facts already well-known; but a recent publication by Mons. R. Stumper—"Zur Kolonie-gründung von *Lasius fuliginosus*" [*Arch. Naturg.* 85 189 (1920)], however, proves that it is still advisable to do so. He found in the summer of 1917 two isolated *fuliginosus* ♀ ♀ in cells, but with no brood, and a third in a cell under a stone which covered a nest of *A. (C.) mixtus*, but not communicating with it. He therefore considers that further investigation is necessary. He mentions the discovery of de Lannoy, and what Emery, Forel, and Wasmann had to say about it, but totally ignores the extensive and conclusive experiments carried out by Crawley and myself, besides the various other records published since our earlier papers, and my book! I propose to republish the whole of the facts on the colony-founding of this ant in a future paper; and possibly in some continental publication.

Formica rufa, L.—This ant was very forward in the south in 1920; on February 18th the colonies at Weybridge were in full activity, building up their nests, going from one to another, carrying their fellows, and massing in numbers on the nests in the sun; dealated ♀ ♀ occur in fair numbers with the ♂ ♂ outside the nests.

On March 21st at Oxshott I found a winged *rufa* ♀ out at some distance from her nest; this is the earliest date on record for either of the winged sexes of this species: April 17th being the earliest former record [see *Brit. Ants p. 255*].

Prenolepis (Nylanderia) longicornis, Latr.—On October 12th this cosmopolitan species was found to be abundant in one of the hot-houses at the Botanic Gardens, Regent's Park. The ♂ ♂ were running about on all the plants and pots, both in and around a large pond in the hot-house. This is the first record for the species in these gardens.

COLEOPTERA.

Atemeles emarginatus var. *nigricollis*, Kr.—A specimen of this variety was found in a nest of *Formica fusca* at Box Hill under a stone on May 4th. As far as I am aware this is only the second time that it has been taken in Britain.

Myrmedonia funesta, Gr.—A specimen was taken running on the ground near an old ash tree at Long Ashton in Somerset, around which a number of *A. (D.) fuliginosus* ♂ ♂ were crawling. This is I believe only the third record for Somersetshire, of this insect.

Claviger testaceus, Preys.—This species occurred in abundance in nests of *A. (C.) flavus* under stones at Box Hill on May 4th, many specimens being *in cōp*; and also with the same ant at Mother Ivy's Bay, N. Cornwall, on July 7th. My friend Mr. Keys tells me he has always found *Claviger* to be very rare in Cornwall.

HYMENOPTERA—PROCTOTRYPIDÆ.

Lagynodes niger var. *aterior*, Box, *Ceraphron fuliginosi*, Box, *Loxo-*

tropa fuliginosi, Box.—These three insects, which are new to science, were all taken in a nest of *A. (D.) fuliginosus* at Woking on September 27th, August 14th, and May 30th respectively. I am indebted to my friend Mr. L. A. Box for the descriptions of the same (see *antea*, pp. 15-16), who at the same time described a species of *Synopeas* taken by me at Barmouth on June 23rd, 1906, in a nest *F. fusca*, under the name *Synopeas fuscicola*.

BRACONIDÆ.

Aspilota nervosa, Hal.—A specimen of this Braconid was taken in the same *fuliginosus* nest as the above mentioned Proctotrypids on September 27th. This is the second time I have taken this species with *fuliginosus*, it having occurred with the ant in question at Darenth Wood in June 1909 [*Ent. Rec.* 22 15 (1910)].

CHALCIDIDÆ.

Spalangia erythromera, Först., was taken in the Woking *fuliginosus* nest on September 27th, and also bred on December 10th from some carton and other refuse taken from the nest on the former date, and placed in a small plaster nest. As far as I know there were no ant larvæ present, but plenty of a fat, broad Dipterous larva, which all pupated later. This however proves nothing, as the *Spalangia* larva may leave its host before pupating, and have been present as a pupa in the débris. This conspicuous jet black species is, in any case, most certainly a regular guest of *fuliginosus*. I first took it in Britain with this ant at Wellington College in April, 1906, and bred it in large numbers the same year from a nest of the ant. It has subsequently been taken by me at Darenth Wood, Oxshott, Weybridge and Woking, and always with the same ant, which it will be remembered is also of a jet-black colour.

DIPTERA.

Pseudacteon formicarum, Verrall.—This little fly was captured hovering over ♂♂ of *F. sanguinea* at Woking on August 14th. I had dug up a *sanguinea* nest and thrown the earth, etc., on a large white cloth. There were no ants on the cloth, or to be seen, except the *sanguinea* ♂♂, and several of the little flies were observed hovering over these ants. It is rather important to emphasise this, as Wasmann in a recent and very valuable paper on this fly [*Biol. Zentralb.* 38 317-29 (1918)] considers it to be only associated with *A. (D.) niger*, as he thinks the ovipositor would not be long enough to reach between the segments of the gasters of larger ants. I have no doubt he is correct in thinking that *niger* is its principal host; but there can be no possible doubt that on this occasion the flies were endeavouring to parasitise the *sanguinea* ♂♂, and their behaviour was just the same as I have always noticed, when they have been hovering over *niger*, and other small ♂ ants.

HETEROPTERA.

Pilophorus cinnamopterus, Kirsc.—Larvæ in numbers and some imago occurred on fir trees over *rufa* nests at Weybridge on July 16th and August 11th, and *Megacoelum beckeri*, Fieb., larvæ on the former occasion. I had hoped to find out something of the life-history of these two species, and the reason for their association with ants, and for

this purpose I had prepared a very large tray covered with sand with a broad moat of water all round. On it were young oak, birch, and fir trees growing in pots and I had established a nice colony of *Formica rufa* upon it, whose hillock was built up in one corner of the tray. Unfortunately the experiment proved to be a failure; as the bugs and their larvæ, of which I brought home numbers, and put on the young trees, always got into the water, and were drowned.

Alydus calcaratus, L.—Larvæ were seen running in company with *F. rufa* ♂ ♂ at Weybridge on August 11th.

Nabis lativentris, Boh.—At Porthcothan Bay, N. Cornwall, on July 9th, one larva of this bug was swept up in company with ♂ ♂ of *F. fusca* var. *glebaria* and *A. (D.) niger*, and another was taken running over a *niger* nest. It is not generally known that the younger forms of this bug possess spines on the pro- and meso-thorax, and also on the front femora; these spines are entirely lost in the adult stage, and those on the femora are replaced by fine hairs. It is the only one in the genus possessing these peculiarities, which are no doubt connected with its ant-like form. My friend Mr. Ernest Green sent two of the spiny form to the Museum in June, which created quite a flutter at the time. When they were shown to me, I expressed a view that they were larvæ of *Nabis lativentris*, but was told that one could not expect any young form with spines to lose them entirely when adult, etc., etc. I produced similar forms from my cabinet taken with ants, but it was suggested they were a new species to Britain. The larval form figured by Dr. Sharp [*Cambridge Nat. Hist.* 6 556 (1899)] who first called attention to the resemblance to ants, is older and does not possess the spines. Other specimens in my collection are also without them. However, "blessed is he that expecteth little," especially when dealing with ants and myrmecophiles, and the various specimens being submitted to Mr. E. A. Butler, he identified them all as early stages of *N. lativentris*. I swept up a form without spines, and with yellow, instead of white, margins to the abdomen, in company with *Myrmica scabrinodis* ♂ ♂ and dealated ♀ ♀ by the side of a marsh near Chichester on August 17th. Other specimens swept up in the marsh itself, had bright red abdominal borders.

COCCIDÆ.

Ripersia europea, New.—Numerous specimens of a Coccid which I felt sure was a species I had not taken before, were found in a nest of *A. (D.) niger* at Stepper Point, N. Cornwall on July 8th, in company with the Aphid *Trama radialis*, Kalt.

Professor Newstead, who kindly named them for me, told me that they were old adult ♀ ♀ full of embryos. He says it is closely related to *Ripersia tomlini*, but is distinguished from old adults of the latter by its smaller size, the large number of gland pores, and the presence of a chitinous scoop-shaped structure of the anal ring. As far as I am aware the insect has only been captured once before in Britain— at Swanage.

ARANEINA.

Tetrilus diversus, Camb.—Egg cases of this spider occurred on the carton itself of the Woking *fuliginosus* nest, and very young, recently hatched spiders were running about on the carton on September 27th

and November 4th. Whether this species is the same as *T. arietinus*, Thor., or not, it is undoubtedly a regular myrmecophile; as is also the latter. I have taken it with this ant in various months (January, April, August, September, November, and December); at Oxshott, Wellington College, Weybridge and Woking; ♀♀ occurring deep in the nest itself. The ♀ evidently lays her eggs on the carton of the nest and I have found egg-cases similarly situated at Weybridge and Oxshott.

It is also probable that the records of *Cryphoeca recisa*, Camb., with ants, really apply to *T. diversus*, as Mr. Hull tells me the true *C. recisa*, Camb., is a synonym of *Tetrilus impudicus*, Simeon, which is non-myrmecophilus.

ACARINA.

Laelaps (Laelaspis) humeratus, Berl., and *Trachyuropoda (Leonardiella) canestriniana*, Berl.—These two mites, which are recorded here for the first time in Britain, were taken by me in a nest of *Tetramorium caespitum* at St. George's Well, N. Cornwall, on July 11th. It is recorded from Italy in ants' nests, and probably with the same host species, as a var. taken in Russia and another in Corsica, were both taken with *Tetramorium caespitum*.

Laelaps (Laelaspis) equitans, Mich.—I have already recorded this species from Porthcothan Bay, and commented on its habits [see *Ent. Rec.* 32 183 (1920)].

Trachyuropoda (Janetiella) troguloides, Can. and Fanz. (= *laminosa*, Berl.), and *Laelaps (Hypoaspis) myrmecophilus*, Berl.—These were taken in ants' nests at Porthcothan Bay on July 8th. The former with *A. (D.) niger*, and the latter with *F. fusca* var. *glebaria*.

Lepidoptera in Peninsular Italy during the year 1920.

By O. QUERCI.

(Continued from page 15.)

While my family collected Lepidoptera in Calabria I was collecting in the mountains of the Garfagnana. I lived in a small peasant's house isolated on the slopes of Monte Sumbra at about an hour's walk from the village of Careggine. The locality seemed very favourable, having large waste lands close to the beech zone (3000-5000ft.). However, I noticed at once that the trees had not produced nuts and that the grass had suffered enough on account of the drought and from the hail storms which had visited the region during spring.

From June 13th to the 26th, notwithstanding the unfavourable season and frequent showers, I collected the following species:—

Zygaena purpuralis, Brünn., race *fiorii*, Costantini. *Z. achilleae*, Esp., race *triptolemus*, Hb. *Z. stoechadis*, Bkh., race *stoechadis*, Bkh. *Z. loniceræ*, Schev., race *vivax*, Vrtv. *Z. transalpina*, Esp., race of transition from *sorrentina*, Stgr., to *altitudinaria*, Trti. *Z. oxytropis*, B. (only two specimens). *Z. carniolica*, Scop. (only two specimens). *Procris statices*, L., race not identified. *P. tennicornis*, Z., race not identified. *Heodes virgaureae*, L., race *apennina*, Calb. *Rumicia phlaeas*, L., race *nigrioreus*, Vrtv. *Loweia aleiphron*, Rott., race *romanorum*, Fruhst. *Lycaena arion*, L., race not identified. *Agriades thetis*, Rott., race *apenninigena*, Vrtv. *A. hylas*, Esp., race *correpta*,